

PRIMARY PERCEPTION AND THE BACKSTER EFFECT

Cleve Backster's 1966 discovery that living cells tune into and respond to their environment as well as to emotions and intentions is still revolutionising our understanding of consciousness and communication.

Interview with Cleve Backster

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Sometimes it happens that a person can name the exact moment when his or her life changed irrevocably. For Cleve Backster, it was early morning on February 2nd, 1966, at 13 minutes 55 seconds of chart time for a polygraph he was administering. One of the world's experts on polygraphs and the creator of the Backster Zone Comparison Test (the standard used by lie detection examiners worldwide), Backster had threatened the subject's well-being in the hope of triggering a response. The subject had responded electrochemically to this threat. The subject was a plant.

Since that time, Cleve Backster has conducted hundreds of experiments showing that plants respond to our emotions and intents, as do severed or crushed leaves, eggs (fertilised or not), yogurt, scrapings from the roof of a person's mouth, sperm and so on. He's found that if he placed oral leukocytes (or white blood cells removed from a person's mouth) into a test tube, the cells would still respond electrochemically to the donor's emotional states, even when the person was out of the room, out of the building or out of the state.

I've wanted to speak to Cleve Backster since I first read about his work when I was a kid. He sparked my imagination, and it is not too much to say that his observations on February 2nd, 1966, changed not only his life but my own. He verified an understanding I had as a child, an understanding that not even a degree in physics could later eradicate: that the world is alive and sentient.

Nonetheless, when I went to talk to him I did not allow my enthusiasm to overwhelm my scepticism. I was excited yet dubious as he placed yogurt into a sterilised test tube. He clamped the tube in place, inserted two sterilised gold electrodes and turned on the recording chart. We began to talk. The pen wriggled up and down, and seemed to lurch just as I took in my breath to disagree with something he said. But I couldn't be sure. When we see something, how do we know if it is real or if we see it only because we wish so much to believe?

Cleve left to take care of business elsewhere in the building. I tried to fabricate anger, thinking of clearcuts and the politicians who legislate them, thinking about abused children and their abusers. The line manifesting the electrochemical response of the yogurt remained perfectly flat. Fabricated emotions either don't count or it's a sham—or something else was terribly wrong. Perhaps the yogurt was not interested in me.

Losing interest myself, I began to wander around the lab. My eyes fell on a calendar, and on closer inspection I saw it was actually an advertisement for UPS. I felt a sudden surge of anger at the ubiquity of advertisements, and then realised, "My god, what was that? A spontaneous emotion!" I dashed to the chart and saw a sudden spike corresponding to the moment I'd seen the calendar. Then more flat line. And more flat line. And more. Again I began to wander through the lab, and again I saw something that triggered an emotion. This was a poster showing a map of the human genome. I thought of the Human Genome Diversity Project, a monumental study hated by many traditional indigenous peoples and their allies for its genocidal implications. Another surge of anger, another dash to the chart and another spike in the graph from instants before I'd started to move. Such are the moments of revolutionary insight.

I spoke with Cleve Backster 31 years and 22 days after his original observation, a full continent away in San Diego from the office on Times Square in New York City where he had once worked and lived.

Derrick Jensen (DJ): I'm sure you've told this story a million times, but can you say again how you first noticed the reaction in a plant?

Cleve Backster (CB): The initial observation that happened on February 2nd, 1966, involved a dracaena cane plant I had back in the lab in Manhattan. I wasn't particularly into plant culture; it's just that there was a going-out-of-business sale at a plant store on the ground floor of the building I was in, and the secretary bought a couple of inexpensive plants for the office. One was a rubber plant and the other was this dracaena cane. I had done a saturation watering of these plants—putting them under the faucet and watering them until water ran through completely—and I was curious as to how long it would take the moisture to get to the top. I was especially interested in the dracaena because the water had to climb a long trunk and then to the end of these long leaves. I thought if I put something that measures resistance at the end of a leaf—the galvanic skin response section of the polygraph, and I had those sitting all over the place because we were running a school—a drop in resistance should be recorded on the paper as the contaminating moisture arrived between the electrodes.

That, at least, is the cover story. I'm not sure if there was another, more profound, reason. It could be that somebody at another level of consciousness was nudging me into doing this. I don't know. But curiosity about watering seems to have worked out as a reasonable explanation of why I did it.

Next, I noticed something on the chart that resembled a human response on a polygraph. In other words, the contour of the pen tracing was not what I would expect from water entering a leaf, but instead what I would expect from a person taking a lie-detector test. Lie detectors work on the principle that when

people perceive a threat to their well-being, they physiologically respond in predictable ways. If you were conducting a polygraph as part of a murder investigation, you might ask a suspect, "Was it you who fired the shot that was fatal to so and so?" If the true answer is yes, the suspect will fear getting caught lying, and electrodes on their skin will pick up the response to that fear.

So I began to think about how I could threaten the well-being of the plant. First I tried putting a neighbouring leaf in a cup of warm coffee. The plant, if anything, showed what I now recognise as boredom: it just kept trending downward. Then, at 13 minutes 55 seconds of chart time, the imagery entered my mind of burning the leaf I was testing. I didn't verbalise, I didn't touch the plant, I didn't touch the equipment. The only new thing that could have been a stimulus for the plant was the mental image. Yet the plant went wild. The pen jumped right off the top of the chart.

I went into the next office to get matches from my secretary's desk and, lighting one, made a few feeble passes at a neighbouring leaf. I realised, though, that I was already seeing such a saturation of reaction that more change wouldn't be noticeable anyway. So I tried a different approach: I removed the threat by taking the matches back to the secretary's desk. The plant calmed right back down.

Immediately I understood something important was going on. There were no alternate explanations. There was no one else in the building, nobody else in the lab suite, and I simply wasn't doing anything that would provide a mechanistic explanation. From that split second, my consciousness hasn't been the same. My whole thought process, my whole priority system, has been devoted to looking into this.

EXPERIMENTS IN ATTUNEMENT

CB: After that first observation, I talked to scientists from different fields, trying to get them to explain to me within their disciplines what was happening. It was totally foreign to them. So I started to design an experiment in greater depth to explore what I soon began to call "primary perception".

DJ: Primary perception?

CB: I couldn't call what I was witnessing extrasensory perception, because plants don't have most of the first five senses to start with. This perception on the part of the plant seemed to take place at a much more basic, or primary, level. Thus the name.

Anyway, what emerged was an experiment in which I arranged for shrimp to be dropped automatically at random intervals into simmering water, while recording the reaction of plants at the other end of the lab.

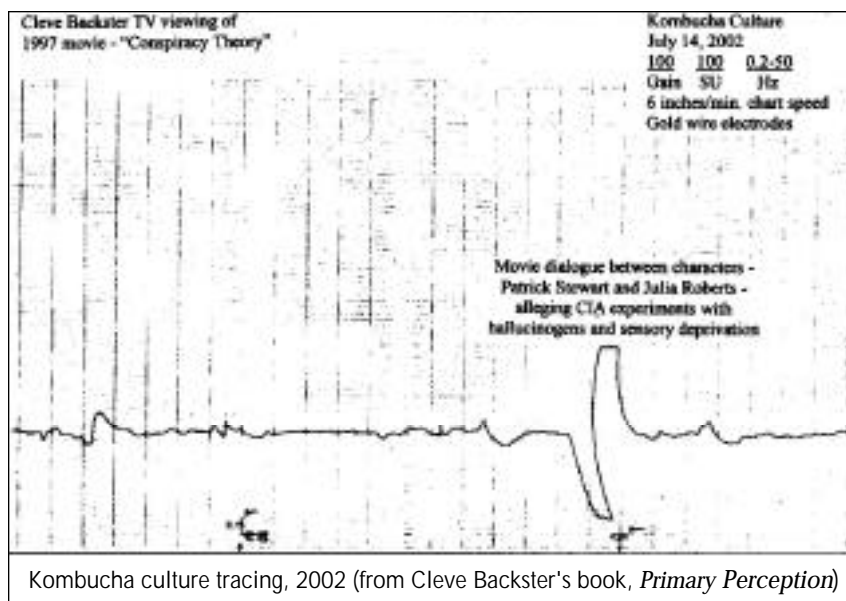
DJ: How did you tell whether the plants were responding to the death of the shrimp or to your emotions?

CB: It is very very hard to eliminate the interconnection between the

experimenter and the plants being tested. Even the briefest association with the plants—just a few hours—is enough to let them become attuned to you. Then, even though you automate the experiment and leave the laboratory, and even though you set a time-delay switch for random intervals, guaranteeing you are entirely unaware of when the experiment starts, the plants will remain attuned to you, no matter where you go.

At first, my partner and I used to go to a bar a block away, and after a time we began to grow suspicious that the plants were not responding to the death of the brine shrimp at all, but instead to the rising and falling levels of excitement in our conversations.

Finally, we came up with a way around this. We had someone else buy the plants and store them in another part of the building we didn't frequent. On the day of the experiment we went to the holding area, brought the plants in, hooked them up and left. This meant the plants were in a strange environment, they had the pressure of the electrodes, they had a little trickle of electricity going through their leaves, and they'd been deserted. Because they were not attuned to us or to anyone else, they began "looking around" for anything that would acquaint them with their environment. Then, and only then, did something so subtle as the death of the brine shrimp get picked up by the plants.



DJ: Do plants become attuned over time only to humans, or do they become attuned to others in their environment as well?

CB: I'll answer that with an example. Often I hook up a plant and just go about my business, then observe what makes it respond. One day back in New York City I was making coffee. The coffee maker we had in the lab was a dripolator, where you put a teakettle on, boil the water, pour it in and it drips down. We normally didn't empty the teakettle but just topped it off later. This particular day, however, I needed the teakettle for something else and so I poured the scalding water down the sink. The plant being monitored showed huge reactions. It turns out that if you don't put chemicals or very hot water down the sink for a long time, a little jungle begins to grow down there. Under a microscope it's almost as scary as the bar scene in *Star Wars*. Well, the plant was responding to the death of the microbes.

I've been amazed at the perception capability right down to the bacterial level. One sample of yogurt, for example, will pick up when another is being fed. Sort of like, "That one's getting food. Where's mine?" That happens with a fair degree of repeatability. Or if you take two samples of yogurt, hook one up to electrodes and drop antibiotics in the other, the electroded yogurt shows a huge response at the other's death. And they needn't even be the same kind of bacteria.

The first Siamese cat I ever had would only eat chicken. My partner's wife would cook a bird and send it to the lab. I'd put the carcass in the refrigerator and pull off a piece each day to feed the cat. By the time I'd get to the end, the carcass would be pretty old and the bacteria would have started to build up. One day I had some yogurt hooked up; and as I got the chicken out of the refrigerator to begin pulling off strips of meat, the yogurt responded. Next, I put the chicken under a heat lamp to bring it to room temperature...

DJ: You obviously pamper your cat...

CB: I wouldn't want the cat to have to eat cold chicken! Anyway, heat hitting the bacteria created huge reactions in the yogurt.

DJ: How do you know you weren't influencing this?

CB: At the time, I was going through a phase where I used pip switches constantly. I had them set up all over the lab. Whenever I performed an action, I hit a switch which placed a mark on the remotely located chart. That way I could later compare the reaction of the yogurt, which I was unaware of at the time, to whatever was happening in the lab. Once again, when I turned the chicken over, I got these huge reactions from the yogurt.

DJ: And another when the cat starts to ingest the chicken?

CB: Interestingly enough, bacteria appear to have a defence mechanism such that impending danger causes them to go into a state very similar to shock. In effect, they pass out. Many plants will do this as well. If you hassle them enough they'll go insensitive, almost like a flat line. The bacteria apparently did this, because, as soon as the unfriendly bacteria hit the cat's digestive system, the signal went out. There was a flat line from then on.

DJ: Dr Livingston, of "Dr Livingston, I presume" fame, was mauled by a lion. He later said that during the attack he didn't feel pain, but was instead blissed out. He said it would have been no problem to give himself up to the lion.

CB: I was on an airplane once, and had with me a little battery-powered galvanic response meter that I could hook to electrodes. I had the aisle seat, and I can still remember the poor guy strapped in next to the window. Just as the attendants started serving lunch, I pulled out this meter and said to him, "You want to see something interesting?" I put a piece of lettuce between the electrodes and when people started to eat their salads we got some reactivity, which stopped as the leaves went into shock. Then I said, "Wait until they pick up the trays, and see what happens". When attendants removed our meals, the lettuce got back its reactivity. The point is that the lettuce was going into a protective state so it would not suffer. When the danger left, the reactivity came back. This ceasing of electrical energy at the cellular level ties in, I believe, to the state of shock that people, too, enter in extreme trauma.

DJ: Plants, bacteria, lettuce leaves...

CB: Eggs. I had a Doberman Pinscher for a while, back in New York, and I used to feed him an egg a day. One day I had a plant hooked up to a large meter ordinarily used to display galvanic skin response. This means that instead of churning out miles of chart paper, which can get pretty expensive, I could see on the meter any large change in reactivity. This particular time I was feeding the dog, and as I cracked the egg the meter went crazy. I thought, "What's the connection between cracking an egg, and the plant in the other room getting all whippy?" That started hundreds of hours of monitoring eggs. Fertilised or unfertilised, it doesn't matter; it's still a living cell, and plants perceive when that continuity is broken. Eggs, too, have the same defence mechanism. If you threaten them, their tracing will go flat on you. Then, if you wait about 20 minutes, they come back.

RESULTS WITH HUMAN CELLS

CB: After working with plants, bacteria and eggs, I started to wonder how animals would react. Of course, you can't hold your cat or dog still for long enough to do meaningful monitoring. So I used scrapings from the roof of a person's mouth. But I was only able to get short-term readings, nothing long enough to draw conclusions. I thought then that I'd try sperm, which would be the ideal single human cell, capable of staying alive outside the body and certainly easy enough to obtain.

In this observation, the sample from the donor was put into a test tube with electrodes, and the donor was separated from the sperm by several rooms. Then the donor inhaled amyl nitrate—you know, poppers, that young people talk about—which when used conventionally is supposed to dilate vessels and stop people from having strokes. Just crushing the amyl nitrate caused a big reaction in the sperm—and when the donor inhaled, the sperm went wild.

So here I am, seeing single-cell organisms on a human level—that are responding to the donor's sensations, even when they are no longer in the same room as the donor. There was no way, though, that I could continue that research. It would have been scientifically proper, but politically stupid. The dedicated sceptics would undoubtedly have ridiculed me, asking where my masturbatorium is, and so on.

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Then, at a meeting in Houston, I met a dental researcher from the Texas University School of Dentistry who had perfected a method of gathering white cells from donors' mouths. This was great. It was politically feasible, easy to do and required no medical supervision, as would have been necessary with white cell extraction directly from blood.

Once that hurdle was out of the way, I started doing split-screen videotaping of experiments, with the chart readout superimposed at the bottom of a screen showing the donor's activities. We found that a person could be 10 blocks away, or even 20 miles away, and we still got reactions.

DJ: How did you monitor over distance?

CB: We took the white cell samples, then sent the people home to watch television. I would have preselected a program that would elicit an emotional response from them—for example, showing a veteran of Pearl Harbor a documentary of West Pacific enemy aircraft attacks—and then I taped both the program and the response of their cells. What we found was that cells outside the body still react to the emotions you feel, even though you may be miles away.

The greatest distance we've tested has been about 300 miles. Brian O'Leary, who wrote *Exploring Inner and Outer Space*, left his white cells here in San Diego, then flew home to Phoenix. On the way, he kept careful track of different things that aggravated him, carefully logging the time of each. The correlation remained over distance.

DJ: The implications of all this...

CB: Yes, are staggering. We get two different kinds of bacteria very much in sync with each other. We get plants responding to our intent. We get plants responding to the death of other creatures. All my work, which consists of file drawers full of this kind of very high quality anecdotal data, has shown time and again that these creatures—bacteria, plants and so on—are all fantastically tuned in to each other.

Now, as you get to humans, this capability gets lost. In one observation after my lecture at Yale University, graduate students monitored a plant and simultaneously hassled a spider, put their hands around it and stopped it from running away. When they moved their hands away, they saw a reaction in the leaf being monitored the instant before it ran, apparently right as it was making the decision. That's a type of high-quality observation I have seen repeatedly.

And human cells, too, have this primary perception capability, but somehow it gets lost; somehow with humans it doesn't surface at the conscious level. It makes you wonder if we have lost that capability, or if we ever had such a talent.

I've come to the conclusion that when a person has evolved spiritually enough to handle these other perceptions, she or he will become properly tuned in. Until then, it may be best *not* to be tuned in because of the damage we cause by mishandling the information received.

Sometimes we have a tendency to see ourselves as the most highly evolved life-form on the planet. We're very successful at intellectual endeavours. But these may not be the ultimate scales by which to judge. It could be that there are others who are more

advanced spiritually. It also could be that we are approaching a place where we may be able to safely enhance our perception. I think more and more people are openly working in these so far marginalised areas of research.

For instance, have you heard of Rupert Shelldrake's work with dogs? He puts a time-oriented camera on both the dog at home and the associated human at work. He has discovered that even for people who come home from work at a different time each day, at the moment the person leaves work the dog at home heads for the door.

REACTIONS FROM MAINSTREAM SCIENTISTS

DJ: How has the scientific community received your work?

CB: With the exception of scientists at the margins, like Rupert Shelldrake, it was met first with derision, then hostility, and mostly now with silence.

At first they called primary perception "the Backster effect", perhaps hoping they could ridicule the observations away by naming them after this wild man who claims to see things that have been missed by mainstream science. The name stuck—and because primary perception can't be readily dismissed, it is no longer a term of contempt.

At the same time the scientists were ridiculing my work, the popular press was paying very close attention to me, with dozens of articles and portions of books, such as *The Secret Life of Plants*. I never asked for any of the articles to be done, and I have never profited from this work. People have always come to me, requesting additional information.

Anyway, the botanical community was getting pretty upset. They wanted to get to the bottom of all this "plant nonsense", so at the 1975 American Association for the Advancement of Science meeting in New York City they planned to resolve the issue. Arthur Galston, of Yale University, a well-known botanist, got together a select group of scientists to try, in my opinion, to neutralise the work. This is a typical response by the scientific community, to

"compare notes" regarding controversial theories. The year before in Chicago, they focused on Immanuel Velikovsky, who wrote *Worlds in Collision*. I had already learned that you don't go into these things to win; you go in to survive. And I was able to do that.

They've now got to the point where they can't counter the research I'm doing, and so their strategy has been to just ignore me, hoping I'll go away. Of course, that's not working, either.

DJ: What is their main criticism?

CB: The big problem, and this is a big problem as far as consciousness research in general is concerned, is repeatability. The events I've seen must be spontaneous. If you've thought them out in advance, you've already changed them. It all boils down to a very simple thing: repeatability and spontaneity do not go together, and as long as members of the scientific community overemphasise that aspect of scientific methodology, they're not going to get very far in consciousness research. I am sure of that. That is precisely what has held it back for years.

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As related to my initial observation in 1966, not only is spontaneity important but so is intent. You can't pretend; it just won't happen. If you say you are going to burn a leaf on the plant and don't mean it, nothing will happen. So you can't pretend regarding a threat to the plant's "well-being", nor can you plan when working for repeatability.

Young people know that spontaneity and repeatability don't go together. I hear constantly from people in different parts of the country, wanting to know what to do to cause plant reactions. I tell them: "Don't do anything. Go about your work; keep notes so later you can tell what you were doing at specific times, and then transfer that to your chart recording of tracing changes. But don't plan anything, or the experiment won't work." The individuals who do this often discover their own equivalent to my initial observation, and they often get first prize in science fairs, etc. But then they get to Science 101, where they're told that what they have already experienced is not important.

There have been a few attempts by scientists to replicate my work with the brine shrimp, but these have all been methodologically inadequate. When they learned that they had to automate the experiment, they merely went to the other side of a wall, then used closed-circuit television to watch what's going on.

Clearly, they weren't removing their consciousness from the experiment. It is so very easy to fail at that experiment—and, let's be honest, some of the scientists who attempted to reproduce it were relieved when they failed, because to have succeeded would have been to go against the body of scientific knowledge.

Finally, I just gave up trying to fight scientists on this because I know that even if the experiment fails, the people attempting it will still see things that will change their consciousness. That means they will never be the same.

I get people coming up now that would not have said anything 20 years ago. They often say, "I think I can safely tell you now how you really changed my life with what you were doing back in the early '70s". These are scientists who didn't feel they had the luxury back then to rock the boat for fear that their credibility, and thus grant requests, would have been affected.

BIOSIGNALLING AT THE QUANTUM LEVEL

DJ: The emphasis on repeatability seems anti-life, since life itself is not repeatable. And that emphasis is incredibly important because, as Francis Bacon made clear, repeatability is inextricably tied to control. And control is fundamentally what Western science is about. Or forget Western science; control is what Western

culture is really all about. For scientists to give up predictability means they must give up control, which means they must give up Western culture, which means it's not going to happen until civilisation collapses under the weight of its own ecological excesses.

Okay. We are faced with several options. We can believe you are lying, and so is everyone else who has ever experienced this. We can believe that what you are saying is true, and that the whole notion of repeatability—and in essence, then, the whole direction of the scientific method—needs to be reworked, as well as the whole notions of consciousness, communication, perception and so on. Or we can believe that you are mistaken. Is there a possibility that you've overlooked some strictly Cartesian,

Baconian, mechanistic answer for your observations? I read somewhere that one scientist's response to your work was that there must be a loose wire in your lie detector.

CB: In 31 years, I've found all my loose wires. No, I can't see any mechanistic solution. Some parapsychologists believe I've mastered the art of psychokinesis and that I move the pen with my mind—which would be a pretty good trick unto itself—but that overlooks the fact that I've automated and randomised many of the experiments to where I'm not even aware of what's going on until later when I study the resulting charts and videotapes.

The conventional explanations have worn pretty thin. Static electricity is one explanation proposed. That one got printed in *Harper's*. If you scuffle across the room and touch the plant, you get a response. But, of course, I seldom touch the plant during periods of observation—and in any case, that response would be totally different.

DJ: So what is the signal that is picked up by the plant?

CB: I don't know. I don't believe the signal, whatever it is, dissipates over distance, which is what we'd get if we were dealing with an electromagnetic phenomenon. I used to hook up a plant, then take a walk with a randomised timer in my pocket. When the timer went off, I'd return home. The plant always responded the moment I turned around, no matter the distance. And the signal from Phoenix was just as strong as if Brian O'Leary were in the next room. I feel comfortable in saying distance doesn't denigrate the signal.

Also, we've attempted to screen the signal using lead-lined containers and other materials, but we've found we can't screen it out. This makes me think the signal doesn't actually go from here to there, but instead is manifesting in different places, not having to travel to be there.



The historic dracaena plant, still thriving in the lab in 2002. (Photo from *Primary Perception*, 2003)

This ties to my feelings about time of transmission. I suspect that it takes no time for the signal to travel. There is no way, using Earth distances, that we could test this because if the signal were electromagnetic it would travel at the speed of light; biological delays would consume more than the fraction of a second it would take for the signal to travel. The only way to test this would be in outer space.

I get support in this belief—that the signal is neither time nor distance dependent—from some quantum physicists. There is something called the Bell theorem, which states that when an atom at a remote location changes its spin, an atom here will change instantly as well.

All this, of course, places us firmly in the territory of the metaphysical, the spiritual. Think about prayer or meditation. If you were to pray to God, and God was hanging out on the far side of the galaxy and your prayer travelled at the speed of light, your bones would long since be dust before God responded. But if God, however you define God, is everywhere, the prayer doesn't have to travel.

DJ: I'm sorry if I am being dense. Let's get real concrete. You have the image of burning the plant...

CB: The image, yes. Not words.

DJ: And distance doesn't matter. So what precisely happens in that instant? How does the plant react?

CB: I don't claim to know. In fact, I have attributed a lot of my success in being still active in this field—in having not been neutralised—to the fact that I make no claim to that very thing. In other words, if I give a faulty explanation, it doesn't matter how much data I have or how many quality observations I've made; the mainstream scientific community will use the incorrect explanation to throw out my data and observations. So I've always said that I don't know how this happens. I'm an experimentalist. I'm not a theorist.

CONSCIOUSNESS REDEFINED

DJ: I'm still confused. What is consciousness, then? The capacity for plants to perceive intent suggests to me a radical redefinition of consciousness.

CB: You mean it would harm the notion of consciousness as something humans have a corner on?

DJ: Or other of the so-called higher animals. Because plants don't have brains, they cannot, according to Western thought, have consciousness.

CB: I have a whole book upstairs on the consciousness of the atom. I think Western science overexaggerates the role of the brain in consciousness. Consciousness could exist on an entirely different level—on the etheric level, for example. Some very good research has been done on remote viewing; that is, describing conditions at a distant location. More good research has been done on survival after bodily death. All of it points toward the notion that consciousness need not specifically be correlated with grey matter. That is another straitjacket we need to rid ourselves of. The brain may have some things to do with memory, but a strong case can be made that much memory is not stored there.

DJ: The whole notion of cellular or at least bodily memory is familiar to any athlete. When you practise, you are trying to build up memories in your muscles.

CB: The brain might not even be part of that loop.

DJ: I was a high-jumper in college, and I knew that if I were conscious I would miss the jump. I had to get my mind out of the way. The same is true in basketball. If the game is on the line, the last thing you want to do is think about it. You want your muscles to do what they do.

CB: When I got out of the navy, around 1945, I started what was at the time the largest weightlifting gymnasium here on the West Coast. We all understood that a part of our work was to focus on the muscle cells, asking them to get bigger—cellular communication with those muscles, asking them what they want, and telling them what you want.

DJ: I'm also thinking about articles I've read on the physiological after-effects of emotional trauma—child abuse, rape, war. A lot of research shows that trauma imprints itself on different parts of your body. A rape victim might later feel a burning in her vagina; someone who was abused late at night might have trouble falling asleep—for purely physiological reasons.

CB: If I bump myself, I explain to the body tissue in that very area what happened. I don't know how effective that philosophy is, but it can't hurt.

DJ: Let's push this notion of consciousness further. Have you done some work also with what would normally be called inanimate materials?

CB: I've shredded some things and suspended them in agar-agar. I get electric signals, but not necessarily relating to anything going on in the environment. It's too crude an electroding pattern for me to decipher. But I do suspect that consciousness goes much, much further.

Also, in 1987 I participated in a University of Missouri program which included a talk by Dr Sidney Fox, then connected with the Institute for Molecular and Cellular Evolution at the

University of Miami. Dr Fox had recorded electric signals from protein-like material that showed properties strikingly similar to modern, living cells. The simplicity of the material being observed and the self-organising capability being displayed suggests to me a biocommunication capability present at the very earliest states in the evolution of life on this planet. If true, who or what would be communicating with this material?

Of course, the Gaia hypothesis—the idea that the Earth is a great big working organism with a lot of corrections built in—fits in nicely with this. The planet is going to get the last word concerning the damage humans are inflicting upon it. It's only going to take so much of the abuse going on, and then it may well burp and snort a little, and a good bit of the population may not be around any more. I strongly suspect that nature has a way of handling abuse. I don't think it would be a stretch to attribute its defence strategy to a kind of planetary intelligence. The planet will handle it, perhaps a bit more severely than we would like. It would be nicer if we took care of the problems, but...

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REACTION FROM RUSSIAN & EASTERN SCIENTISTS

DJ: How has your work been received in other parts of the world?

CB: The Russians have always been very interested. I remember in 1973 I was asked to be the chair of the man-plant-animal communication section of the first International Psychotronic Association meeting in Prague, Czechoslovakia, and a number of mainstream Russian scientists attended—some claiming that they came all the way down from Moscow to hear my talk and to interview me for additional details. I found them very open and knowledgeable—not like here, where many people are afraid to touch these areas of research. In many ways, they seemed much more attuned to spiritual concepts than most scientists in the West. This may be because of the corner that people in the West have been put into by organised religion.

I don't believe that organised religion has done a very good job. It's supposed to tell you in a meaningful way where you came from, what you're doing here and where you're going, and in my opinion it fails on every one of these counts. This leads, so far as I am concerned, to our present sorry state where, to take medical care as an example, we are faced with an awful lot of people who are tired of living and afraid of dying. And so billions of dollars are spent to keep them in that state of limbo. They certainly aren't happy, yet they're so unprepared for death, so unassured as to what will happen to them in the dying process that there seems nowhere for them to turn.

DJ: How are you treated in the Indian subcontinent and the Far East?

CB: Whenever I encounter Indian scientists—Buddhist or Hindu—and we talk about what I do, instead of giving me a bunch of grief, they say, "What took you so long?" My work dovetails very well with many of the concepts embraced by Hinduism and Buddhism.

DJ: What are we as Westerners afraid of?

CB: Maybe the question is, "Why aren't Western scientists working on this more?" I think the answer is that if what I am observing is accurate, many of the theories we've built our lives on need complete reworking. I've known biologists to say, "If Backster is right, we're in trouble". It takes a certain kind of character and personality to cope with that.

The big question I think we need to ask our Western scientific community is the one the Hindu and Buddhist scientists ask me: "What took you so long?" Scientists and that whole community in general are caught in a difficult place because, in order to maintain our current mode of scientific thought, they must ignore a tremendous amount of information. And more of this information is being gathered all the time. I think we're going to see a shift in the near future. People in scientific pursuits are stumbling all over this biocommunication phenomenon; it seems impossible, especially given the sophistication of modern instrumentation, for

them to miss this fundamental attunement that is happening all around us, and only for so long are they going to be able to pretend it's the result of "loose wires".

DJ: If your work were tomorrow to be commonly accepted and acted upon, not only by people experientially but by the scientific community, what would that mean?

CB: It would mean a radical rethinking of our place in the world. I think we're seeing it already. There are some places now where insurance companies are paying for alternative medicines. And the acceptance of Deepak Chopra, who lectures on the very things we're talking about here, is a big step. Now that this acceptance has started—even to a limited extent—it will continue to pick up momentum. I'm seventy-three now, and even in my days I think I'll see a revolution in perspective.

I went to a meeting in Sri Lanka last December, which had people from India, Pakistan, a couple of hundred from Taiwan and about that many from mainland China. Everyone got along beautifully, speaking the common language of alternative medicine. There were very few US scientists there, which is both unfortunate and expected. We in the United States are holdouts, but that will not last much longer. We cannot forever deny that which is so clearly there.

About the Interviewer:

Derrick Jensen is the author of *A Language Older Than Words*, *The Culture of Make Believe*, and many other books including, most recently, *Welcome to the Machine: Science, Surveillance, and the Culture of Control*. He writes for the *New York Times Magazine*, *Audubon*, *Sun Magazine* and *The Ecologist*, among many others. You can read more about him and his work at <http://www.derrickjensen.org>.

Derrick Jensen's interview was first published as "The Plants Respond: An Interview with Cleve Backster" in *Sun Magazine*, July 1997.

About the Interviewee:

Cleve Backster founded The Backster Research Foundation, Inc. in 1965 to expand on his polygraph work which he started in the late 1940s. Since 1966 he

has also been conducting extensive research into biocommunication. His work is featured in the bestselling book, *The Secret Life of Plants*, by Peter Tompkins and Christopher Bird (Harper & Row, 1973), and *The Secret Life of Your Cells*, by Robert Stone (Whitford Press, 1989). His only book, *Primary Perception: Biocommunication with Plants, Living Foods, and Human Cells* (White Rose Millennium Press, 2003) is reviewed in this issue.

Mr Backster teaches at the Backster School of Lie Detection and is an international speaker on biocommunication. He is on the teaching faculty at the California Institute for Human Science and serves on the advisory board of the Institute of HeartMath in Boulder Creek, Colorado.

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Cleve Backster and his assistant test the dracaena plant in 1966. (Photo from website, <http://www.primaryperception.com>)